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SUMMARY OF THE OFFICE ACTION

- 1) Applicant confirms that all inventors of this Application and the Angiolini et al. reference were under a contractual obligation to assign all inventions made to the same assignee.
- 2) Claims 1-7 have been rejected under 35 U.S.C. 103(a) as unpatentable over Published US Patent Application Document 2002/0091200.

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RESPONSE TO THE OFFICE ACTION

- 1) Claims 1-7 have been rejected under 35 U.S.C. 103(a) as unpatentable over Published US Patent Application Document 2002/0091200 (Angiolini et al.).

The basis of the rejection is essentially as follows:

- A) It is asserted that Angiolini et al. discloses the same technology of the claims except that the present claims recite novel substituent groups attached to the *bis*-phenolfluorene groups.
- B) It is then asserted that "it would be obvious to one of ordinary skill in the art to determine through routine experimentation the optimum, operable specific groups to modify the references [*sic*, Angiolini et al.] and use the attached phenyl groups as the references do teach different derivatives.

This rejection fails as both a matter of Law and as a matter of evidentiary fact at so many different levels that it is difficult to begin the analysis.

First, as compared to the disclosure of Angiolini et al., the different groups of the present invention as compared to the groups disclosed by Angiolini et al. relate to the R¹ and R² groups of Angiolini et al. The specific groups disclosed by Angiolini et al. for R¹ and R² are specifically limited in scope to "...a linear or branched alkyl group having from 1 to 6 carbon atoms, such as e.g., methyl, ethyl, butyl group, a halogen atom, such as chlorine, bromine, iodine or fluorine, with the proviso that R¹ and R² are not both an alkyl group." It is clear from this disclosure that the proposed and allowed substitution for R¹ and R² are simple atoms or molecules, with a maximum molecular weight of about 54 being specifically shown, and with possible steric or physical interference issues avoided by limiting the groups to at most one alkyl group. The nature of the disclosure of Angiolini et al. on the R¹ and R² substitution is clearly narrow, with tight limitations placed on the scope of the groups. This strict limitation is part of the nature of the disclosure of Angiolini et al.

Based on this narrow and focused and controlled disclosure of the Angiolini et al. invention, the rejection asserts that essentially any groups may be substituted for those disclosed by Angiolini et al. merely by "...routine experimentation the optimum, operable specific groups to modify the references..."

This assertion of obviousness is no more than an asserted conclusion of law without supportive facts and without motivation. In addition, the asserted obviousness flies in the face of normal considerations of synthetic and organic chemistry.

Starting again from the premise that Angiolini specifically, carefully and precisely limited the scope of R¹ and R² substitution, some gravamen must be attributed to that selection. There must be some motivation beyond theoretic possibility without specific purpose to dramatically alter the scope of the R¹ and R² substitution. For example, under existing scientific principles and standards of obviousness, the PTO could assert that the use of a pentyl group would be obvious, or by using the general descriptions of Angiolini et al. that the use of a 3-chloropropyl substituent as an R¹ and R² substitution would be obvious, as those variations are within the immediate purview of the skilled chemist. This is usually referred to as the acceptable obviousness of a species disclosed within a genus (cf. *In re Jones*, 935 F.2d 1569, 19USPQ2d 1241 (Fed. Cir. 1991)).

That limited basis for asserting obviousness does not extend to realms where a highly limited disclosure suggests against significant substitution. The use of an aromatic group having a molecular weight of at least 77 as compared to the propyl group (linear or branched, but no aromaticity) with a molecular weight of 54 and molecular volume less than a third that of a phenyl group is not an obvious step forward from the specifically intended limits of Angiolini et al.

Not only is the difference structurally significant, but there is no basis from the record itself for showing that the synthesis of the aromatic compounds is enabled by the disclosure of Angiolini et al. Furthermore, since the primary aromatic groups on which R¹ and R² substitution are already present have some potential for steric crowding because of the para-substitution of the oxy-group, the synthesis using aromatic groups for R¹ and R² substitution is clearly more structurally complex than the simple R¹ and R² substitution disclosed by Angiolini. These are factors that have not been considered in the blanket rejection, fundamentally asserting that any substitution may be tried and therefore any substitution is *prima facie* obvious. Such an assertion, especially in view of the facts, is error and must be withdrawn.

It is well known that ordinary skill or even high levels of skill in the art "cannot act as a bridge over gaps in substantive presentations of an obviousness case." (*Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 21USPQ2d 1053, Fed. Cir. 1991).

Additionally, the prior disclosure of Angiolini et al. emphasizes the importance of substitution in the compound with respect to the primary object of the properties of the invention, the proper wavelength absorption of the optical film. (See Table 1 and the following paragraphs in Angiolini et al.). As the substitution on the compound has been shown to be important, undirected research, randomly putting alternative substituents without any guidance (the basis of the rejection under 35 USC 103(a)) is not obviousness, but haphazard, unscientific, random exercises in work without direction or intent. As it is a significant element of obviousness that a *prima facie* case of obviousness only results when the prior art "provided the motivation to make the claimed [invention] in the expectation that [it] would have similar properties..." (*In re Dillon* 919 F.2d 688, 16USPQ2d 1897 (Fed. Cir. 1990), the fact that substitution has been identified by Angiolini as important (if not critical) raises the need for specific motivation as opposed to random guesswork in seeking alternative substitution with an expectation of similar [beneficial] properties.

Of great significance, which has been repeatedly overlooked, is the fact that in the specification, a compound of the present invention (Compound 1) was compared to multiple compounds of the Angiolini reference (which did not have aromatic substitution). The comparison in Table 1 of the present case clearly shows that Film 1 (the Invention) displayed consistently better performance than every one of the compounds of the Angiolini et al. reference. This is clear evidence that the rejection of record is in error.

The rejection of record is in error and must be withdrawn.

Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being sent by facsimile transmission or deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop: RCE, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on 4 March 2010.

Mark A. Litman
Name


Signature